08:49:12 ON 19 APR 2007
10:54:29 ON 19 APR 2007

```
FILE 'HCAPLUS' ENTERED AT 08:50:38 ON 19 APR 2007
L1          7007 SEA ABB=ON  PLU=ON  (GE OR GERMANIUM)(L)MOA/RL
L2         27529 SEA ABB=ON  PLU=ON  (GE OR GERMANIUM)(5A)(DEPOSIT####### OR
                 DOP#### OR IMPLANT##### OR BOMBARD#### OR ADD##### OR MODIFY###
                  OR MODIFI### OR ION BEAM OR ELECTRON BEAM OR INTRODUC##### OR
                 IMPURIT####)
L3         30516 SEA ABB=ON  PLU=ON  L1 OR L2
L4         11491 SEA ABB=ON  PLU=ON  ((GE OR GERMANIUM)(4A)(THERMAL##### OR
                 ACTIVAT##### OR ANNEAL##### OR HEAT### OR HOT OR (HIGH OR
                 INCREAS###)(2A)(TEMP## OR TEMPERATURE)))
L5        106084 SEA ABB=ON  PLU=ON  (N TYPE OR NITROGEN OR PHOSPHORUS OR P OR
                 ARSENIC OR AS)(5A)(DOP#### OR IMPLANT##### OR BOMBARD#### OR
                 ADDITIVE OR MODIFY### OR MODIFI### OR ION BEAM OR ELECTRON
                 BEAM OR IMPURIT####)
L6         78685 SEA ABB=ON  PLU=ON  (NITROGEN OR N)(5A)(DOP#### OR IMPLANT#####
                  OR BOMBARD#### OR ADDITIVE OR MODIFY### OR MODIFI### OR ION
                 BEAM OR ELECTRON BEAM OR IMPURIT####)
L7        139019 SEA ABB=ON  PLU=ON  L5 OR L6
L8          3288 SEA ABB=ON  PLU=ON  L3 AND L4
L9         51313 SEA ABB=ON  PLU=ON  (L3 OR L7) AND (THERMAL##### OR ACTIVAT####
                 # OR ANNEAL##### OR HEAT### OR HOT OR (HIGH OR INCREAS###)(2A)(
                 TEMP## OR TEMPERATURE))
                 S L8 AND (NISI OR NI(W)SI OR NICKEL(3A)SILICIDE OR NISI2 OR NI2

FILE 'REGISTRY' ENTERED AT 08:59:39 ON 19 APR 2007
L10            1 SEA ABB=ON  PLU=ON  12201-89-7/RN

FILE 'HCAPLUS' ENTERED AT 08:59:39 ON 19 APR 2007
L11         1456 SEA ABB=ON  PLU=ON  L10

FILE 'REGISTRY' ENTERED AT 08:59:40 ON 19 APR 2007
L12            1 SEA ABB=ON  PLU=ON  39467-10-2/RN

FILE 'HCAPLUS' ENTERED AT 08:59:40 ON 19 APR 2007
L13         1250 SEA ABB=ON  PLU=ON  L12

FILE 'REGISTRY' ENTERED AT 08:59:41 ON 19 APR 2007
L14            1 SEA ABB=ON  PLU=ON  12035-57-3/RN

FILE 'HCAPLUS' ENTERED AT 08:59:41 ON 19 APR 2007
L15         1326 SEA ABB=ON  PLU=ON  L14
L16           25 SEA ABB=ON  PLU=ON  L8 AND (NISI OR NI(W)SI OR NICKEL(3A)SILICI
                 DE OR NISI2 OR NI2SI OR L15 OR L13 OR L11 OR NICKEL(3A)MONOSILI
                 CIDE)
L17          116 SEA ABB=ON  PLU=ON  L8 AND (SILICID######### OR SALICID########
                  OR SILICONIZ####### OR SILICONIS#########)
L18          117 SEA ABB=ON  PLU=ON  L16 OR L17
L19           13 SEA ABB=ON  PLU=ON  L18 AND (BORON OR B)(L)MOA/RL
L20           15 SEA ABB=ON  PLU=ON  L18 AND (BORON OR B)(5A)(DEPOSIT####### OR
                 DOP#### OR IMPLANT##### OR BOMBARD#### OR ADD##### OR MODIFY###
                  OR MODIFI### OR ION BEAM OR ELECTRON BEAM OR INTRODUC##### OR
                 IMPURIT####)
L21            6 SEA ABB=ON  PLU=ON  L18 AND (P TYPE OR ALUMINUM OR AL OR
                 GALLIUM OR INDIUM OR GA)(5A)(DOP#### OR IMPLANT##### OR
                 BOMBARD#### OR ADDITIVE OR MODIFY### OR MODIFI### OR ION BEAM
                 OR ELECTRON BEAM OR IMPURIT####)
L22         2733 SEA ABB=ON  PLU=ON  L9 AND (BORON OR B)(L)MOA/RL
L23         2553 SEA ABB=ON  PLU=ON  L9 AND (GERMANIUM OR GE)(L)MOA/RL
L24         9734 SEA ABB=ON  PLU=ON  L9 AND (GE OR GERMANIUM)(5A)(DEPOSIT#######
                  OR DOP#### OR IMPLANT##### OR BOMBARD#### OR ADD##### OR
                 MODIFY### OR MODIFI### OR ION BEAM OR ELECTRON BEAM OR
                 INTRODUC##### OR IMPURIT####)
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L4 ANSWER 15 OF 30 COPYRIGHT ACS on STN
AN 2003:311691 HCAPLUS
DN 139:237960
ED Entered STN: 23 Apr 2003
TI Enhanced phase stability and morphological stability of Ni(Si,Ge) on strained Si0.8Ge0.2
AU Seger, J.; Zhang, S.-L.
CS Department of Microelectronics and Information Technology, Kungliga Tekniska Hogskolan, Kista, SE-164 40, Swed.
SO Thin Solid Films (2003), 429(1-2), 216-219
CODEN: THSFAP; ISSN: 0040-6090
PB Elsevier Science B.V.
DT Journal
LA English
CC 75-7 (Crystallography and Liquid Crystals)
AB NiSi0.8Ge0.2 film formed on a strained Si0.8Ge0.2 layer epitaxially grown on a Si(100) substrate wafer is morphol. stable up to 750°. The NiSi0.8Ge0.2 film is strongly oriented along its <010> direction. This remarkable stability is thus possibly caused by the tendency of an epitaxial alignment between the NiSi0.8Ge0.2 film and the Si0.8Ge0.2 layer. The presence of Ge in NiSi forming the ternary solution NiSi0.8Ge0.2 **hinders** the formation of **NiSi2** even at 850°.
ST enhanced phase stability morphol germanium nickel silicide
IT Crystal morphology
Epitaxy
Stability
(enhanced phase stability and morphol. stability of Ni(Si,Ge) on strained Si0.8Ge0.2 epitaxially grown on Si(100) substrate wafer)
IT Sheet resistance
(of Ni(Si,Ge) on strained Si0.8Ge0.2 epitaxially grown on Si(100) substrate wafer)
IT 37380-03-3, Germanium 20, silicon 80 (atomic) 592465-52-6, Germanium nickel silicide (Ge0.2NiSi0.8)
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PYP (Physical process); PROC (Process)
(enhanced phase stability and morphol. stability of Ni(Si,Ge) on strained Si0.8Ge0.2 epitaxially grown on Si(100) substrate wafer)

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L25         6804 SEA ABB=ON  PLU=ON  L9 AND (BORON OR B)(5A)(DEPOSIT####### OR
                 DOP#### OR IMPLANT##### OR BOMBARD#### OR ADD##### OR MODIFY###
                  OR MODIFI### OR ION BEAM OR ELECTRON BEAM OR INTRODUC##### OR
                 IMPURIT####)
L26        11272 SEA ABB=ON  PLU=ON  L9 AND (P TYPE OR ALUMINUM OR AL OR
                 GALLIUM OR INDIUM OR GA)(5A)(DOP#### OR IMPLANT##### OR
                 BOMBARD#### OR ADDITIVE OR MODIFY### OR MODIFI### OR ION BEAM
                 OR ELECTRON BEAM OR IMPURIT####)
L27        34180 SEA ABB=ON  PLU=ON  L9 AND (N TYPE OR NITROGEN OR PHOSPHORUS
                 OR P OR ARSENIC OR AS)(5A)(DOP#### OR IMPLANT##### OR BOMBARD##
                 ## OR ADDITIVE OR MODIFY### OR MODIFI### OR ION BEAM OR
                 ELECTRON BEAM OR IMPURIT####)
L28        15356 SEA ABB=ON  PLU=ON  (L22 OR L25 OR L26) AND (L23 OR L24 OR
                 L27)
                 S L28 AND (NISI OR NI(W)SI OR NICKEL(3A)SILICIDE OR NISI2 OR NI

FILE 'REGISTRY' ENTERED AT 09:05:33 ON 19 APR 2007
L29            1 SEA ABB=ON  PLU=ON  12201-89-7/RN

FILE 'HCAPLUS' ENTERED AT 09:05:34 ON 19 APR 2007
L30         1456 SEA ABB=ON  PLU=ON  L29

FILE 'REGISTRY' ENTERED AT 09:05:35 ON 19 APR 2007
L31            1 SEA ABB=ON  PLU=ON  39467-10-2/RN

FILE 'HCAPLUS' ENTERED AT 09:05:35 ON 19 APR 2007
L32         1250 SEA ABB=ON  PLU=ON  L31

FILE 'REGISTRY' ENTERED AT 09:05:36 ON 19 APR 2007
L33            1 SEA ABB=ON  PLU=ON  12035-57-3/RN

FILE 'HCAPLUS' ENTERED AT 09:05:36 ON 19 APR 2007
L34         1326 SEA ABB=ON  PLU=ON  L33
L35           98 SEA ABB=ON  PLU=ON  L28 AND (NISI OR NI(W)SI OR NICKEL(3A)SILIC
                 IDE OR NISI2 OR NI2SI OR L34 OR L32 OR L30 OR NICKEL(3A)MONOSIL
                 ICIDE)
L36          751 SEA ABB=ON  PLU=ON  L28 AND (SILICID######### OR SALICID#######
                 # OR SILICONIZ####### OR SILICONIS#########)
L37          169 SEA ABB=ON  PLU=ON  (L35 OR L36) AND (GERMANIUM OR GE)
L38          570 SEA ABB=ON  PLU=ON  (L35 OR L36) AND (BORON OR B)
L39          140 SEA ABB=ON  PLU=ON  L37 AND L38
L40          236 SEA ABB=ON  PLU=ON  L18 OR L39
L41          236 SEA ABB=ON  PLU=ON  L40 AND ((GERMANIUM OR GE OR (GERMANIUM OR
                 GE)(L)MOA/RL))
L42          146 SEA ABB=ON  PLU=ON  L40 AND ((BORON OR B OR (BORON OR B)(L)MOA/
                 RL))
L43          146 SEA ABB=ON  PLU=ON  L41 AND L42
                 S L27 AND (NISI OR NI(W)SI OR NICKEL(3A)SILICIDE OR NISI2 OR NI

FILE 'REGISTRY' ENTERED AT 09:10:51 ON 19 APR 2007
L44            1 SEA ABB=ON  PLU=ON  12201-89-7/RN

FILE 'HCAPLUS' ENTERED AT 09:10:51 ON 19 APR 2007
L45         1456 SEA ABB=ON  PLU=ON  L44

FILE 'REGISTRY' ENTERED AT 09:10:52 ON 19 APR 2007
L46            1 SEA ABB=ON  PLU=ON  39467-10-2/RN

FILE 'HCAPLUS' ENTERED AT 09:10:52 ON 19 APR 2007
L47         1250 SEA ABB=ON  PLU=ON  L46

FILE 'REGISTRY' ENTERED AT 09:10:53 ON 19 APR 2007
L48            1 SEA ABB=ON  PLU=ON  12035-57-3/RN

FILE 'HCAPLUS' ENTERED AT 09:10:53 ON 19 APR 2007
L49         1326 SEA ABB=ON  PLU=ON  L48
L50          188 SEA ABB=ON  PLU=ON  L27 AND (NISI OR NI(W)SI OR NICKEL(3A)SILIC
                 IDE OR NISI2 OR NI2SI OR L49 OR L47 OR L45 OR NICKEL(3A)MONOSIL
                 ICIDE)
L51         1497 SEA ABB=ON  PLU=ON  L27 AND (SILICID######### OR SALICID#######
                 # OR SILICONIZ####### OR SILICONIS#########)
L52         1520 SEA ABB=ON  PLU=ON  L50 OR L51
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L53          275 SEA ABB=ON  PLU=ON  L52 AND (P TYPE OR ALUMINUM OR AL OR
                 GALLIUM OR INDIUM OR GA)(5A)(DOP#### OR IMPLANT##### OR
                 BOMBARD#### OR ADDITIVE OR MODIFY### OR MODIFI### OR ION BEAM
                 OR ELECTRON BEAM OR IMPURIT####)
                 S L34 AND (NISI OR NI(W)SI OR NICKEL(3A)SILICIDE OR NISI2 OR NI

FILE 'REGISTRY' ENTERED AT 09:13:25 ON 19 APR 2007
L54            1 SEA ABB=ON  PLU=ON  12201-89-7/RN

FILE 'HCAPLUS' ENTERED AT 09:13:25 ON 19 APR 2007
L55         1456 SEA ABB=ON  PLU=ON  L54

FILE 'REGISTRY' ENTERED AT 09:13:26 ON 19 APR 2007
L56            1 SEA ABB=ON  PLU=ON  39467-10-2/RN

FILE 'HCAPLUS' ENTERED AT 09:13:26 ON 19 APR 2007
L57         1250 SEA ABB=ON  PLU=ON  L56

FILE 'REGISTRY' ENTERED AT 09:13:27 ON 19 APR 2007
L58            1 SEA ABB=ON  PLU=ON  12035-57-3/RN

FILE 'HCAPLUS' ENTERED AT 09:13:27 ON 19 APR 2007
L59         1326 SEA ABB=ON  PLU=ON  L58
L60         1326 SEA ABB=ON  PLU=ON  L34 AND (NISI OR NI(W)SI OR NICKEL(3A)SILIC
                 IDE OR NISI2 OR NI2SI OR L59 OR L57 OR L55 OR NICKEL(3A)MONOSIL
                 ICIDE)
L61         1289 SEA ABB=ON  PLU=ON  L34 AND (SILICID######### OR SALICID#######
                 # OR SILICONIZ####### OR SILICONIS##########)
L62         1326 SEA ABB=ON  PLU=ON  L60 OR L61
L63          666 SEA ABB=ON  PLU=ON  ((L34 OR L35 OR L36 OR L37 OR L38 OR L39
                 OR L40)) AND (FIELD EFFECT OR TRANSISTOR OR MOSFET OR MOS OR
                 MISFET OR CMOS OR PMOS OR NMOS OR SBMOS OR PMOSFET OR NMOSFET
                 OR LOCOS OR JFET OR IGFET OR MESFET)
L64         1210 SEA ABB=ON  PLU=ON  ((L34 OR L35 OR L36 OR L37 OR L38 OR L39
                 OR L40)) AND (GATE OR SOURCE OR DRAIN OR SOURCE(2A)DRAIN OR
                 CONTACT OR REGION OR BODY OR JUNCTION OR CHANNEL OR MASK)
L65         1274 SEA ABB=ON  PLU=ON  L63 OR L64
L66          372 SEA ABB=ON  PLU=ON  L60 AND (FIELD EFFECT OR TRANSISTOR OR
                 MOSFET OR MOS OR MISFET OR CMOS OR PMOS OR NMOS OR SBMOS OR
                 PMOSFET OR NMOSFET OR LOCOS OR JFET OR IGFET OR MESFET)
L67          657 SEA ABB=ON  PLU=ON  L60 AND (GATE OR SOURCE OR DRAIN OR
                 SOURCE(2A)DRAIN OR CONTACT OR REGION OR BODY OR JUNCTION OR
                 CHANNEL OR MASK)
L68          705 SEA ABB=ON  PLU=ON  L66 OR L67
L69         1274 SEA ABB=ON  PLU=ON  (L63 OR L64 OR L65 OR L66 OR L67 OR L68)
L70          207 SEA ABB=ON  PLU=ON  L69 AND (GERMANIUM OR GE)
L71          105 SEA ABB=ON  PLU=ON  L70 AND (BORON OR B OR BORON(L)MOA/RL)
L72          101 SEA ABB=ON  PLU=ON  L71 AND (METHOD OR PROCESS##### OR
                 FABRICAT##### OR MANUFACTUR##### OR STEP OR SEQUENTIAL? OR
                 SEQUENC#### OR SUBSEQUENT? OR FOLLOW### OR AFTER#### OR
                 PROCEDUR#### OR SERIES OR LATER OR SEQUENT OR ORDER###)
L73           51 SEA ABB=ON  PLU=ON  L71 AND H01L?/IC,IPC
L74          102 SEA ABB=ON  PLU=ON  L72 OR L73
L75           54 SEA ABB=ON  PLU=ON  L74 AND P/DT
L76           48 SEA ABB=ON  PLU=ON  L74 NOT L75
L77           33 SEA ABB=ON  PLU=ON  L76 NOT 2004-2007/PY
L78           37 SEA ABB=ON  PLU=ON  L75 AND 2004-2007/PRY,PY
L79           36 SEA ABB=ON  PLU=ON  L75 AND 1984-2003/PRY,PY
L80           17 SEA ABB=ON  PLU=ON  L75 NOT L78
L81           36 SEA ABB=ON  PLU=ON  L79 OR L80
L82           69 SEA ABB=ON  PLU=ON  L81 OR L77
                 D L82 ALL 1-69
L83         7007 SEA ABB=ON  PLU=ON  (GE OR GERMANIUM)(L)MOA/RL
L84        27529 SEA ABB=ON  PLU=ON  (GE OR GERMANIUM)(5A)(DEPOSIT####### OR
                 DOP#### OR IMPLANT##### OR BOMBARD#### OR ADD##### OR MODIFY###
                  OR MODIFI### OR ION BEAM OR ELECTRON BEAM OR INTRODUC##### OR
                 IMPURIT####)
L85        30516 SEA ABB=ON  PLU=ON  L83 OR L84
L86        11491 SEA ABB=ON  PLU=ON  ((GE OR GERMANIUM)(4A)(THERMAL##### OR
                 ACTIVAT##### OR ANNEAL##### OR HEAT### OR HOT OR (HIGH OR
                 INCREAS####)(2A)(TEMP## OR TEMPERATURE)))
```

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L87        8611 SEA ABB=ON  PLU=ON  ((GE OR GERMANIUM)(4A)(ACTIVAT##### OR
                ANNEAL##### OR HEAT### OR HOT OR (HIGH OR INCREAS####)(2A)(TEMP
                ## OR TEMPERATURE)))
L88        3288 SEA ABB=ON  PLU=ON  L85 AND L86
L89         116 SEA ABB=ON  PLU=ON  L88 AND (SILICID######### OR SALICID#######
                # OR SILICONIZ####### OR SILICONIS#########)
L90          22 SEA ABB=ON  PLU=ON  L89 AND (NISI OR NI(W)SI OR NICKEL(3A)SILIC
                IDE OR NISI2 OR NI2SI OR NICKEL(2A)MONOSILICIDE)
L91         116 SEA ABB=ON  PLU=ON  L89 OR L90
L92         106 SEA ABB=ON  PLU=ON  L91 NOT L82
L93          72 SEA ABB=ON  PLU=ON  L92 AND (METHOD OR PROCESS##### OR
                FABRICAT##### OR MANUFACTUR##### OR STEP OR SEQUENTIAL? OR
                SEQUENC#### OR SUBSEQUENT? OR FOLLOW### OR AFTER######)
L94          23 SEA ABB=ON  PLU=ON  L92 AND (PROCEDUR#### OR SERIES OR LATER
                OR SEQUENT OR ORDER### OR H01L?/IC)
L95          78 SEA ABB=ON  PLU=ON  L93 OR L94
L96          26 SEA ABB=ON  PLU=ON  L95 AND P/DT
L97          52 SEA ABB=ON  PLU=ON  L95 NOT L96
L98          43 SEA ABB=ON  PLU=ON  L97 NOT 2004-2007/PY
L99          18 SEA ABB=ON  PLU=ON  L96 AND 2004-2007/PRY,PY
L100         15 SEA ABB=ON  PLU=ON  L96 AND 1985-2003/PRY,PY
L101          8 SEA ABB=ON  PLU=ON  L96 NOT L99
L102         16 SEA ABB=ON  PLU=ON  LL00 OR L101
L103         59 SEA ABB=ON  PLU=ON  L102 OR L98
L104          7 SEA ABB=ON  PLU=ON  L103 AND (BORON OR B OR BF2 OR (BORON OR
                B)(L)MOA/RL)
L105         15 SEA ABB=ON  PLU=ON  L103 AND (P TYPE OR ALUMINUM OR AL OR
                GALLIUM OR INDIUM OR GA)
L106         19 SEA ABB=ON  PLU=ON  L104 OR L105
L107         19 SEA ABB=ON  PLU=ON  (L104 OR L105 OR L106)
                D L107 ALL 1-19
```

4/19/2007 2:01:21 PM
4/19/2007 2:40:49 PM

[File 348] **EUROPEAN PATENTS** 1978-2007/ 200715
[File 349] **PCT FULLTEXT** 1979-2007/UB=20070412UT=20070305

Set	Items	Description
S1	6954	S (GE OR GERMANIUM)(8N)(DEPOSIT???? OR DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S2	1596	S ((GE OR GERMANIUM)(6N)(RTA OR ACTIVAT???? OR ANNEAL???? OR HEAT??? OR HOT OR (HIGH OR INCREAS???)(2N)(TEMP?? OR TEMPERATURE? ?)))
S3	105412	S (BORON OR B OR BF???)(8N)(DEPOSIT???? OR DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S4	1569952	S (BORON OR B OR BF???)
S5	522	S S1 AND S2
S6	279	S S5 AND S3
S7	23	S S6 AND (NISI OR NI(W)SI OR NICKEL(3N)SILICIDE? ? OR NISI2 OR NI2SI OR NICKEL(3N)MONOSILICIDE? ? OR NICKEL(3N)DISILICIDE? ?)
S8	74	S S6 AND (SILICID???????? OR SALICID????????? OR SILICONIZ??????? OR SILICONIS?????????)
S9	77	S S7 OR S8
S10	11	S (PREVENT???? OR HINDER????? OR ELIMINAT???? OR SLOW??? OR BLOCK???? OR STOPPING OR INHIBIT???? OR SUPPRESS???? OR IMPED???? OR AVOID????)(5N)(NI(2N)DISILICIDE OR NI(W)SI2 OR NICKEL(2N)DISILICIDE? ? OR NISI2 OR NI2SI)
S11	7080	S (GE OR GERMANIUM)(8N)(DEPOSIT???? OR DOP???? OR IMPLANT??????? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S12	526	S S11 AND S2
S13	5424	S S11 AND (RTA OR ACTIVAT???? OR ANNEAL???? OR HEAT??? OR HOT OR (HIGH OR INCREAS???)(2N)(TEMP?? OR TEMPERATURE? ?))
S14	4606	S S13 AND (BORON OR B OR BF???)
S15	1417	S S13 AND ((P()TYPE AND N()TYPE))
S16	118	S S14 AND (NISI OR NI(W)SI OR NICKEL(3N)SILICIDE? ? OR NISI2 OR NI2SI OR NICKEL(3N)MONOSILICIDE? ? OR NICKEL(3N)DISILICIDE? ?)
S17	535	S S14 AND (SILICID???????? OR SALICID????????? OR SILICONIZ??????? OR SILICONIS?????????)
S18	559	S S16 OR S17
S19	528	S S18 AND (FIELD()EFFECT? OR TRANSISTOR? ? OR MOSFET? ? OR MOS? ? OR MISFET? ? OR CMOS? ? OR C()MOS? ? OR PMOS? ? OR P()MOS? ? OR NMOS? ? OR N()MOS? ? OR SBMOS? ? OR SB()MOS? ? OR PMOSFET? ? OR P()MOSFET? ? OR NMOSFET? ? OR N()MOSFET? ? OR LOCOS OR JFET? ? OR J()FET? ? OR IGFET? ? OR MESFET? ?)
S20	554	S S18 AND (GATE? ? OR SOURCE? ? OR DRAIN? ? OR SOURCE(2N)DRAIN? ? OR CONTACT? ? OR REGION? ?OR BODY OR BODIES OR JUNCTION? ? OR CHANNEL? ? OR MASK? ?)
S21	451	S (S19 OR S20) AND (GERMANIUM?)
S22	85	S S9 OR S10
S23	339	S S21 AND (LATTICE OR THERMAL()BUDGET OR SOURCE(3N)DRAIN?)
S24	45	S S21 AND SPIK????
S25	111	S (S19 OR S20) AND ((GE OR GERMANIUM)(8N)(RTA OR ACTIVAT???? OR ANNEAL???? OR HEAT??? OR HOT OR (HIGH OR INCREAS???)(2N)(TEMP?? OR TEMPERATURE? ?)))
S26	219	S S21 AND (LATTICE? ? OR THERMAL()BUDGET? ?)
S27	93	S S21 AND (NISI OR NI(W)SI OR NICKEL(3N)SILICIDE? ? OR NISI2 OR NI2SI OR NICKEL(3N)MONOSILICIDE? ? OR NICKEL(3N)DISILICIDE? ?)
S28	350	S S21 AND IC=H01L?
S29	407	S S22 OR S24 OR S25 OR S27 OR S28
S30	397	S (S22 OR S24 OR S25 OR S27 OR S28) AND (SILICID???????? OR SALICID???????? OR SILICONIZ????????? OR SILICONIS?????????)
S31	407	S S29 OR S30
S32	399	S S31 AND (SEMICONDUCT???? OR TRANSISTOR? ?)
S33	205	S S32 AND PD<=20031128
S34	205	S S33 AND (METHOD? ? OR PROCESS???? OR FABRICAT???? OR MANUFACTUR???? OR STEP? ? OR SEQUENTIAL? OR SEQUENC???? OR SUBSEQUENT??? OR FOLLOW???? OR AFTER????? OR PROCEDUR????? OR SERIES OR LATER OR SEQUENT? ? OR ORDER????)
S35	138	S S33 AND (GATE OR SOURCE(3N)DRAIN? ?)
S36	134	S S35 AND (IMPLANT??????? OR DOP????)
S37	116	S S36 AND (ACTIVAT?????? OR ANNEAL?)
S38	69	S S37 AND (GERMANIUM)(5N)(IMPLANT??????? OR DOP????)
S39	84	S S37 AND (BORON OR B OR BF???)(5N)(IMPLANT?????? OR DOP????)
S40	56	S S38 AND S39

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4/19/2007 1:43:33 PM

[File 2] **INSPEC** 1898-2007/Apr W2

Set	Items	Description
S1	14340	S (GE OR GERMANIUM)(8N)(DEPOSIT???? OR DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S2	4408	S ((GE OR GERMANIUM)(6N)(ACTIVAT???? OR ANNEAL???? OR HEAT??? OR HOT OR (HIGH OR INCREAS???)(2N)(TEMP?? OR TEMPERATURE? ?)))
S3	107713	S (N()TYPE OR NITROGEN OR PHOSPHORUS OR P OR ARSENIC OR AS)(6N)(DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM OR ELECTRON()BEAM OR E()BEAM OR IMPURIT????)
S4	120825	S ((N()TYPE OR NITROGEN OR PHOSPHORUS OR P OR ARSENIC OR AS)(6N)(ACTIVAT???? OR ANNEAL???? OR HEAT??? OR HOT OR (HIGH OR INCREAS???)(2N)(TEMP?? OR TEMPERATURE? ?)))
S5	25954	S (BORON OR B)(8N)(DEPOSIT???? OR DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S6	49072	S (P()TYPE OR ALUMINUM OR AL OR GALLIUM OR INDIUM OR GA)(6N)(DEPOSIT???? OR DOP???? OR IMPLANT???? OR BOMBARD???? OR ADDITIVE? ? OR MODIFY??? OR MODIFI???? OR ION()BEAM? OR ELECTRON()BEAM OR E()BEAM OR INTRODUC???? OR IMPURIT????)
S7	1375	S S1 AND S2
S8	9033	S S3 AND S4
S9	104	S S7 AND S5
S10	150	S S7 AND (BORON OR B)
S11	1359	S S8 AND (BORON OR B OR BF??)
S12	2982	S S8 AND CC=A6170T?
S13	1108	S S8 AND CC=A6180J?
S14	2516	S S8 AND CC=B2550B?
S15	3809	S S12:S14
S16	759	S S15 AND (BORON OR B OR BF??)
S17	154	S S7 AND (BORON OR B OR BF??)
S18	154	S S9 OR S10 OR S17
S19	0	S S18 AND (NISI OR NI(W)SI OR NICKEL(3N)SILICIDE? ? OR NISI2 OR NI2SI OR NICKEL(3N)MONOSILICIDE? ? OR NICKEL(3N)DISILICIDE? ?)
S20	0	S S18 AND (CI=NISI2 OR CI=NISI OR CI=NI2SI)
S21	6	S S18 AND (SILICID???????? OR SALICID????????? OR SILICONIZ??????? OR SILICONIS?????????)
S22	45	S S16 AND (SILICID???????? OR SALICID????????? OR SILICONIZ??????? OR SILICONIS?????????)
S23	7	S S16 AND (NISI OR NI(W)SI OR NICKEL(3N)SILICIDE? ? OR NISI2 OR NI2SI OR NICKEL(3N)MONOSILICIDE? ? OR NICKEL(3N)DISILICIDE? ?)
S24	51	S S21:S23
S25	0	S S18 AND DISILIC????????????????
S26	0	S (PREVENT???? OR HINDER????? OR ELIMINAT???? OR SLOW??? OR BLOCK???? OR STOPPING OR INHIBIT???? OR SUPPRESS???? OR IMPED???? OR AVOID????)(5N)(NI(2N)DISILICIDE OR NI(W)SI2 OR NICKEL(2N)DISILICIDE? ? OR NISI2 OR NI2SI)
S27	225	S S15 AND (GERMANIUM OR GE)
S28	759	S S15 AND (BORON OR B OR BF??)
S29	183	S S15 AND CI=GE
S30	460	S S15 AND CI=B
S31	64	S (S27 OR S29) AND (S28 OR S30)
S32	2	S S31 AND (SILICID???????? OR SALICID????????? OR SILICONIZ??????? OR SILICONIS?????????)
S33	51	S S32 OR S24
S34	47	S S33 NOT S33/2004-2007

12:07:16 ON 19 APR 2007
12:30:21 ON 19 APR 2007

FILE 'HCAPLUS' ENTERED AT 12:07:32 ON 19 APR 2007

L1 1 SEA ABB=ON PLU=ON US 6399452/PN
D L1 ALL

L2 15 SEA ABB=ON PLU=ON (PREVENT#### OR HINDER#### OR ELIMINAT#### OR SLOW### OR BLOCK#####)(4A)(NI DISILICIDE OR NI(W)SI2 OR NICKEL(2A)DISILICIDE OR NISI2 OR NI2SI)

L3 16 SEA ABB=ON PLU=ON (STOP OR STOPPING OR INHIBIT###### OR SUPPRESS##### OR IMPED#### OR AVOID####)(4A)(NI DISILICIDE OR NI(W)SI2 OR NICKEL(2A)DISILICIDE OR NISI2 OR NI2SI)

L4 30 SEA ABB=ON PLU=ON L2 OR L3
D L4 ALL 1-30

L82 ANSWER 65 OF 69 COPYRIGHT ACS on STN
AN 1992:73521 HCAPLUS
DN 116:73521
ED Entered STN: 21 Feb 1992
TI Ultra shallow **junction** formation using diffusion from **silicides**. I. **Silicide** formation, dopant implantation and depth profiling
AU Jiang, H.; Osburn, C. M.; Smith, P.; Xiao, Z. G.; Griffis, D.; McGuire, G.; Rozgonyi, G. A.
CS Dep. Electr. Comput. Eng., North Carolina State Univ., Raleigh, NC, 27695-9711, USA
SO Journal of the Electrochemical Society (1992), 139(1), 196-206
CODEN: JESOAN; ISSN: 0013-4651
DT Journal
LA English
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 79
AB Shallow **junctions** were **fabricated** in a **silicide**-As-diffusion-**source process** using implantation of BF2 and As into thin **silicides** of cobalt, titanium, **nickel**, palladium, and platinum with emphasis on CoSi2. **Ge-implantation** was used in an attempt to amorphize the **silicide** prior to the **boron introduction** and thereby eliminate the possible channeling of **boron** in the polycryst. **silicide**. **Ge implantation** created a heavily damaged layer of 10 nm in the **silicide**, which was restored to a polycryst. state **after annealing** at 900° for 10 s. The **boron** profile in a thick CoSi2, 300 nm, measured deeper than in a thin CoSi2, 50 nm, demonstrating the effect of SIMS shadowing. The effect of **Ge- implantation** on **boron** profiles was within the depth measurement error, indicating that no pronounced channeling had taken place in the **silicide**. Implant depths measured by SIMS agree well with those calculated by TRIM near the peak, but large deviations exist at the tail.
ST **junction fabrication** metal **silicide** dopant implantation
IT Transition metal **silicides**
RL: USES (Uses)
(**boron** profile and sheet resistivity of **doped**)
IT Surface structure
(of cobalt **silicide** and titanium **silicide**, **after germanium** and **boron** fluoride **implantation**)
IT Semiconductor **junctions**
(silicon, **fabrication** of, from transition metal **silicides**)
IT 7440-56-4D, **Germanium**, ions, uses
RL: USES (Uses)
(amorphization of silicon by **implantation** with, prior to **introduction** of **boron**, for **junction fabrication**)
IT 12017-12-8, Cobalt disilicide **12035-57-3**, **Nickel monosilicide** 12039-83-7, Titanium disilicide 12137-83-6, Platinum monosilicide 12188-53-3, Palladium **silicide** (pd2si)
RL: USES (Uses)
(**boron** profile and sheet resistivity of **boron** fluoride **implanted**)

L4 ANSWER 13 OF 30 COPYRIGHT ACS on STN
AN 2003:892048 HCAPLUS
DN 139:372970
ED Entered STN: 14 Nov 2003
TI Manufacture of nickel-silicon-based thin layers in short time as electrodes for electronic devices
IN Yasuda, Yukio; Zaima, Shizuaki; Sakai, Akira; Nakatsuka, Satoru; Tsuchiya, Yoshinori
PA Nagoya University, Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
IC ICM H01L021-28
CC 76-2 (Electric Phenomena)
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2003324078	A	20031114	JP 2002-130561	20020502
	JP 3876307	B2	20070131		
PRAI	JP 2002-130561		20020502		

AB Ni thin layers are formed on Si substrates via Ge-containing thin layers, and the resulting multilayer structures are heat-treated at predetd. temps to give nickel silicon germanium layers. Ge ion implantation in the Si substrates may be carried out in stead of forming the Ge-containing thin layers. The process **inhibits** formation of **NiSi2** phases causing elevation of resistivity and surface and interface roughness, even if the multilayer films are heat-treated at high temperature, e.g., ≥750°.

ST nickel silicon germanium multilayer film electrode; electronic device electrode nickel silicon germanium

IT Electric apparatus
Film electrodes
Ion implantation
(manufacture of nickel silicon germanium layers on Si substrates as electrodes for electronic devices)

IT 7440-02-0, Nickel, processes 7440-56-4, Germanium, processes 11148-26-8, Germanium 14, silicon 86 (atomic) 116984-55-5, Germanium 46, silicon 54 (atomic)
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PROC (Process)
(manufacture of nickel silicon germanium layers on Si substrates as electrodes for electronic devices)

IT 7440-21-3, Silicon, processes
RL: CPS (Chemical process); DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(substrate; manufacture of nickel silicon germanium layers on Si substrates as electrodes for electronic devices)